

THE TYPE OF *CAREX SCIRPOIDEA* VAR. *GIGAS* (CYPERACEAE)

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ABSTRACT

The combination *Carex scirpoidea* Michx. var. *gigas* Holm was published in 1904, without reference to a collector or specimen, citing only the type locality: Mt. Eddy, Siskiyou County, California. The first reference to a specimen as the type was in 1922 by Mackenzie, who cited a collection made by Cyrus Pringle in 1881, from Siskiyou Co., California. What constitutes the type of this combination has been questioned, however, and as late as 1999 was called unknown. A specimen has been found that bears every indication of being the holotype studied by Holm, collected on Mt. Eddy by E. B. Copeland in 1903.

Key Words: California, *Carex scirpoidea* var. *gigas*, Cyperaceae, Herman Theodor Holm, Siskiyou Co.

The perennial, wetland sedge *Carex scirpoidea* Michx. var. *gigas* Holm is one of a handful of sedges in California associated with serpentine soils; although uncommon, populations are known in the northern Sierra Nevada and serpentine-endemic-rich Klamath Ranges (Mastrogiuseppe 1993; Safford et al. 2005). The name has recently been treated as a taxonomic synonym of *C. scabriuscula* Mack., that grows in serpentine soils of adjacent southwestern Oregon (Dunlop 1997, 2002). Holm (1904) published *C. scirpoidea* var. *gigas* without citing a collection, but provided a type locality: “Only known from Siskiyou County, California: Mt. Eddy.” The majority of Holm’s (1904) publication concerned collections by Macoun from British Columbia. The next publication to treat this plant was by Mackenzie, who published a series of papers dealing with “a large amount of material which has accumulated in the New York Botanical Garden, and which collectors as a rule have not attempted to name” (Mackenzie 1906). In publishing the new combination *Carex gigas* (Holm) Mack., Mackenzie (1908) cited “Specimens examined: California: Siskiyou County, 8000 ft, Pringle, August 18 [sic], 1881,” but did not refer to this collection, or any other, as a type.

In a later treatment of the genus in California, however, Mackenzie (1922) left no doubt of his regard for the status of Cyrus Pringle’s collection: “Known only from Siskiyou Co., California. Locs: Siskiyou Co., 8000 feet, Pringle Aug 18 [sic], 1881 (type); Grizzly Hill, Siskiyou Co., 6800 feet, Leiberg 5104, July 12, 1900.” Subsequently, both Jepson (1922) and Mackenzie (1935) cited Pringle’s collection as the type, and the type locality as Siskiyou Co.; the correct date as it appears on the corresponding specimen, 19 Aug 1881, was eventually printed in *North American Cariceae*

(Mackenzie 1940), in which Pringle’s specimen was the basis for the illustration of the species. Mackenzie (1922) had noted: “All specimens cited have been examined. They are to be found in one or another of the following collections: Smithsonian Institution; University of California; Stanford University (including herbaria of S.B. Parish and W.R. Dudley); New York Botanical Garden; Harvard University; Ezra Brainerd; K.K. Mackenzie.” Mackenzie’s own herbarium and types are now housed at NY (Stafleu and Cowan 1981).

The specimen that Mackenzie both cited and annotated bears Pringle’s label, distributed as ‘*Carex scirpoidea* Michx.’, with data written: ‘Mts., Siskiyou Co., alt. 8000 ft; 19 Aug 1881; Pringle s.n.’ (NY-11321! [seen as image]). Mackenzie also annotated what appears to be a duplicate at the Gray Herbarium, distributed only as ‘*Carex*’, with Pringle’s printed locality: ‘Mts. about the head waters of the Sacramento River, alt. 8000 ft; 19 Aug 1881; Pringle 126’ (GH-283221!). A third Pringle specimen, at the Field Museum, initially seems to draw Holm’s protologue and Mackenzie’s ‘type’ very close together. It, too, bears Pringle’s label, distributed as ‘*Carex*’, with the data written: ‘Mt. Eddy; 19 Aug 1881; Pringle 126’ (F-261604! [seen as image]). Aside from the epithet ‘*scirpoidea* Mx.’ written on Pringle’s label at some later time, however, there are no historical annotations on that sheet to suggest that it was seen either by Holm or by Mackenzie. By what reasoning Mackenzie chose Pringle’s specimen as type remains unknown. Although Pringle certainly collected in the vicinity on the date that appears on these specimens, the two duplicates that Mackenzie saw did not connect Pringle to Mt. Eddy, the type locality cited by Holm. At the same time, Mackenzie (1922) did not claim that

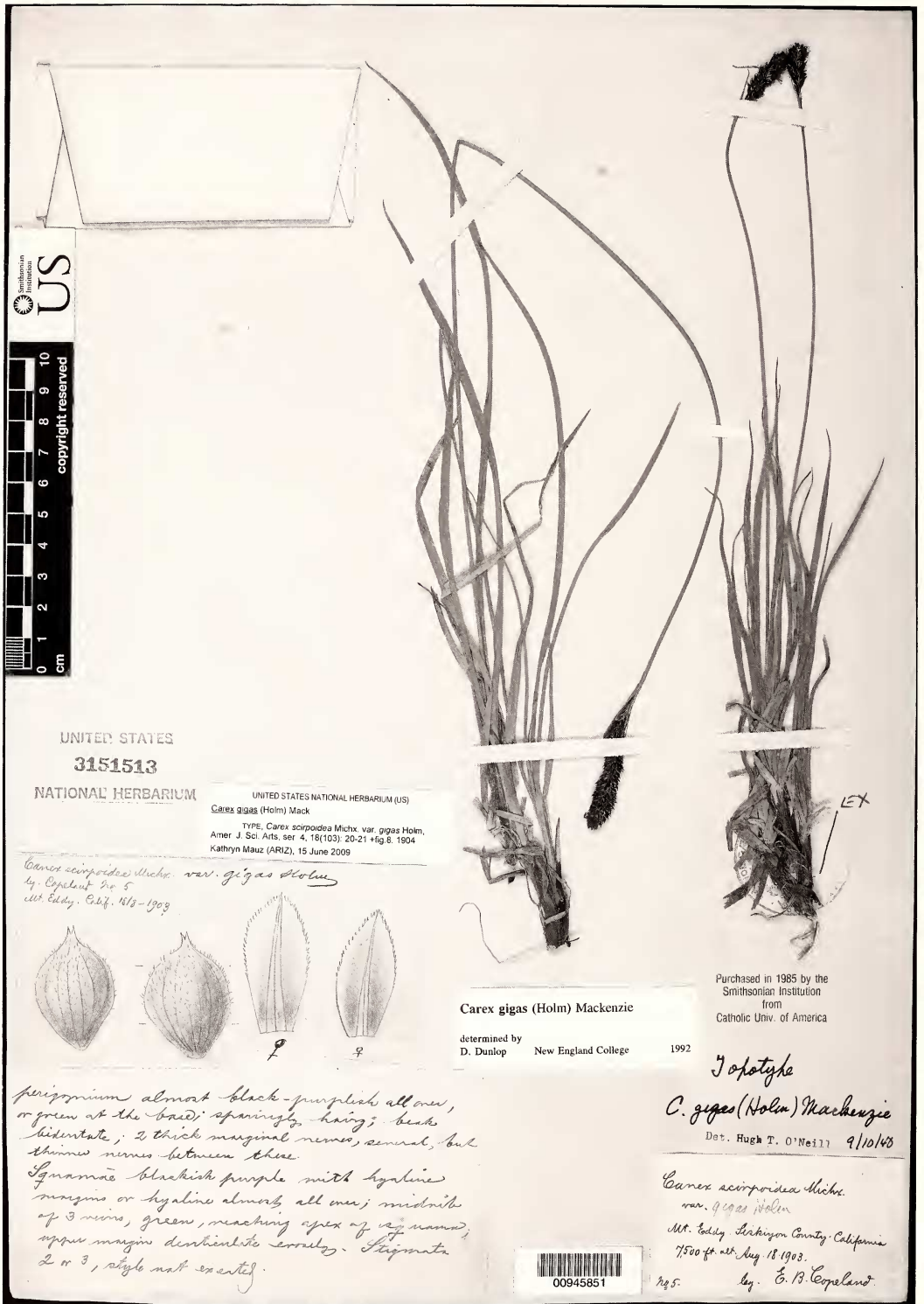


FIG. 1. Holotype of *Carex scirpoidea* var. *gigas*: E. B. Copeland no. 5, 18 Aug 1903, Mt. Eddy, California (US-3151513 ex LCU). Type image courtesy of Smithsonian Institution.

he was selecting Pringle's specimen as neotype in the absence of original material seen by Holm.

Recent treatments of the group that includes *C. scirpoidea* var. *gigas* have expressed uncertainty about the type of the basionym: "...In 1908 when Mackenzie raised this taxon to the specific level, he did not lectotypify this species but only referred to Cyrus Pringle's specimen from 8000 feet, Siskiyou County, California, 18 August 1881. It is not known at this time which specimen of Pringle's was examined by Holm in 1904" (Dunlop 1997). In a subsequent review of the taxonomy of the *Scirpinae*, the type of *C. gigas* was cited as "Type: USA California: Siskiyou County, Mt. Eddy (not known)" (Dunlop and Crow 1999). While Dunlop (1997) and Dunlop and Crow (1999) cited Mackenzie's publications of 1908 and 1935, they did not cite the intervening publication in which Mackenzie, in 1922, effectively established the Pringle specimen as neotype (McNeill et al. 2006). In the century since the name was published, Pringle's collection has been the only one called the type of *C. scirpoidea* var. *gigas*, or *C. gigas*, but that status should now be regarded as superfluous (McNeill et al. 2006).

Herman Theodor Holm (1854–1932) was a 1902 doctoral graduate of the Catholic University of America, contributed to its herbarium, and remained in the Washington, D.C., area as an affiliate of the Smithsonian Institution and U.S. Department of Agriculture (Tucker et al. 1989). It was during this period that he wrote a series of papers on sedges, of which his 1904 publication was a part. When the herbarium of Catholic University (LCU) was disbanded in 1985, the majority of the Cyperaceae was acquired by the National Herbarium (US) (Tucker et al. 1989), and that transfer is recorded by stamps on the sheets. A Pringle duplicate of *C. scirpoidea* var. *gigas* is not among the material at US ex LCU. There are, however, two sheets at US that present a range of features evincing their status as type material.

On one sheet of *C. scirpoidea* var. *gigas* is a label in Holm's writing for a collection by E. B. Copeland (see Wagner 1965), from Mt. Eddy, Siskiyou Co., 18 Aug 1903 (US-3151513! ex LCU; Fig. 1). More telling than the locality is a series of pencil-shaded line drawings pasted to the sheet, showing perigynia and scales that Holm's annotation indicated were based upon 'Copeland no. 5'. The illustration accompanying the protologue was a line drawing of a perigynium (Holm 1904) that could readily have been derived from one of these sketches. The sketches on the sheet are labeled '*Carex scirpoidea* var.' in pencil, with '*gigas* Holm' added in brown ink. Below the sketches and pasted to the sheet is a lengthy description, also in brown ink and in Holm's handwriting. Hugh T. O'Neill, a member of the faculty at Catholic University (Tucker et al. 1989), annotated this sheet in 1940 as 'topotype'

of *C. gigas*. A second sheet at US has pasted to it what appears to be Copeland's field ticket, written hastily in pencil on a scrap of brown paper, that was also annotated by Holm with the new name (US-3155047! ex LCU).

The International Code of Botanical Nomenclature (Art. 9) states that a lectotype *may* be designated when no holotype was cited by the author of a name, and recommends that typification of a name so published should take into account the author's methods and materials (McNeill et al. 2006). Not only were the two Copeland sheets at US ex LCU clearly studied by Holm, there are evidently no other specimens of this species seen by Holm that could compete for type status. None of Pringle's specimens (F, GH, NY) have the epithet '*gigas*' attached to them except as Mackenzie's (1908) combination, *C. gigas*. This, together with Holm's annotation of Copeland's specimens as *C. scirpoidea* var. *gigas*, provides a strong indication that Holm did not see Pringle's material at all. (Incidentally, the Copeland material at US was not annotated, and so probably not seen, by Mackenzie.) In conclusion, the status of 'holotype' and 'isotype' for the Copeland sheets at US appears justifiable, and lectotypification is unnecessary. The type should be recognized as follows:

Carex scirpoidea Michx. var. *gigas* Holm, Amer. J. Sci. Arts, ser. 4, 18(103): 20–21 +Fig. 8. 1904. Type: USA, California. Siskiyou Co., Mt. Eddy, alt. 7500 ft; 18 Aug 1903, E.B. Copeland 5 (holotype: US-3151513! ex LCU; isotype: US-3155047! ex LCU).

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